



Exploring Satellite Image Integration for the Chesapeake Bay SAV Monitoring Program -A STAC Workshop-

Background: This is a STAC workshop with invited technical and management personnel convened to review and determine the science and technology essential to integrate satellite image assessment into the Chesapeake Bay SAV Monitoring Program. During the workshop, we will define the feasibility of the integration (related to the science), and document costs, benefits, and any potential disadvantages of the integration (logistical, financial, scientific). With that, we will then determine the steps, information necessary, and timeline in which to officially integrate satellite data and imagery into the SAV monitoring program.

This workshop will include three separate two-day sessions that will take place every other month between October, 2019 and February, 2020 and culminate in a final two- to three-day synthesis effort that will take place in April, 2020 (four sessions total). The proposed schedule is below. Timing is, of course, flexible. We anticipate no more than fifteen to twenty participants at each of the first three sessions and up to thirty at the final session.

- Session 1:** Oct 2019 – Initial meeting of the minds. Review proposal for a common understanding of workshop objectives. Review of the state of the programming and science for assessing Chesapeake Bay SAV. Develop game plan details for the remaining sessions that will inform our objectives and support development of the workshop report product.
- Session 2:** Dec 2019 – Review of information and challenges identified in Session 1. Determine the logistics of satellite image tasking and acquisition. Identify possibilities for image publication. Work with DoD to decrease overflight restrictions. Discuss plans for comparison study and establish calibration needs. Discuss potential necessity of hybrid assessment design.
- Session 3:** Feb 2020 – TBD. Fill in gaps and finalize logistics.
- Session 4:** Apr 2020 – Final Meeting. Develop final product and review materials. Develop an integrated strategy for the overall program, including defining data acquisition responsibilities and pathways, data storage responsibilities, MOU development if necessary, initial data processing approach and targeted data processing modifications, historical data calibration with changes to satellite based imagery, add-on assessment applications (e.g. drone sensed SAV in sub-estuaries/small waterways/previously unassessed refuge areas, and data synthesis/communication.)

Each meeting will follow the two “half-days” format, commencing at approximately 11:00 am the first day and adjourning at approximately 3:00 pm the following.

STAC SAV/Satellite Workshop Session 2 Agenda

Where: VIMS
Owens-Bryant Board Room, Davis Hall
7539 State Rte 1203
Gloucester Point, VA 23062

When: December 17th -18th, 2019

Recommended Lodging:
[Duke of York Hotel](#)

Day 1 (12.17.19)

11:00 am – Welcome and Introductions

11:20am – **Review of SAV Monitoring Program and Workshop Objectives (Brooke Landry, Peter Tango)**

11:45 am – **Review of information and challenges identified in Session 1 (Brooke Landry, Peter Tango)**

12:15 pm – Lunch, provided

1:00 pm – **Discussion 1: Assessing Feasibility, Part 1_Tasking and Logistical Issues**

During this discussion, we'll tackle satellite tasking and logistical issues associated with using satellite data for the Chesapeake Bay SAV Monitoring Program. Topics will cover working with Maxar and NGA and will include perspectives and guidance from Blake Schaeffer and his team on satellite data acquisition, processing, and publication.

2:30 pm – Break, coffee provided

3:00 pm – **Discussion 2: Assessing Feasibility, Part 2_Scientific and Technical Issues**

During this discussion, we'll delve further into artificial intelligence, machine learning, algorithm development for image interpretation to extract SAV cover, data storage, and image processing capacity.

4:30 pm – **Exercise 1: Determine specific questions for Maxar.** During this brief session we'll identify exactly what questions remain for Maxar and NGA that would facilitate data acquisition and use of satellite imagery for assessing, monitoring and reporting on SAV distribution and abundance for the tidal waters of Chesapeake Bay and its tributaries.

5:15 pm – Adjourn. Regather for group dinner at the Yorktown Pub at ~6:00 pm.

Day 2 (12.18.19)

9:00 am – Regroup. Coffee provided.

9:15 am – **Recap of Day 1 (Brooke Landry, Peter Tango)**

9:30 am – **This time is reserved for conversations with Maxar**

10:30 am – Break, coffee provided

11:00 am – **Discussion 3: Additional Challenges and Opportunities_Working with the DoD**

During this discussion, we'll determine what opportunities are available for collaboration or coordinating with the Department of Defense and CB Watershed military installations to address existing limitations to baywide coverage in monitoring and assessing SAV.

12:00 pm – Lunch, provided

1:00 pm – **Discussion 4. Determining specific requirements for a comparison and calibration study.**

Assuming we move forward with satellite data integration into the CB SAV Monitoring program, a comparison and calibration study will be required by the CBP. During this discussion, we'll determine in detail what this study will look like and require.

2:00 pm – **Discussion 5. Final Thoughts.**

During this time we'll make sure all topics have been covered and addressed prior to departure. We will also set an agenda for the two remaining sessions, draft their content and outputs, determine potential dates and locations for each session, and develop an invite list for each session.

3:00 pm – Adjourn